WHAT IS CLAIMED IS:

1.   A method for time profiling multiple threads of execution corresponding to a program, comprising:

interrupting execution of all of the threads;

determining whether register data corresponding to a selected thread has changed; and

providing an indication of the change for the selected thread.

2.   The method of claim 1, wherein the determining step includes

accessing stored data corresponding to the selected thread; and

comparing the stored data with register information stored following a previous interrupt.

3.   The method of claim 2, wherein the comparing step includes

computing a value corresponding to the stored data; and

determining a relationship between the computed value and the previously stored register information.

4.   The method of claim 3, wherein the step of providing an indication of the change for the selected thread includes

updating a memory segment to reflect that the selected thread is running when it is determined that the computed value and the previously stored register

information do not match.

5.   A method for determining whether a selected thread of execution of a multi-threaded program is running, comprising:

suspending execution of the multi-threaded program;

retrieving register data corresponding to the selected thread;

computing a value based on the register data;

comparing the computed value with register information stored following a previous suspension of the multi-threaded program; and

regarding the selected thread as running if the computed value is different from the previously stored register information.

6.   The method of claim 5, wherein the regarding step includes updating the previous register information based on the computed value.

7.   The method of claim 5, wherein the regarding step includes providing an indication corresponding to a portion of the program containing the selected thread.

8.   A method for time profiling multiple threads of execution

corresponding to a program, comprising:

   suspending execution of the program;

   determining whether stored information corresponding to processor registers

for each thread indicates that the thread is running; and

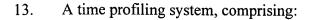   recording time-profiling information for each running thread.

18

9.   A time profiling system, comprising:

a multi-threaded program; and

a processor configured to execute the multi-threaded program, and to periodically interrupt execution of all of the threads to determine whether register data corresponding to a selected thread has changed and provide an indication of the change for the selected thread.

10.   The system of claim 9, wherein the processor is further configured to access stored data corresponding to the selected thread and compare the stored data with register information stored following a previous interrupt.

11.   The system of claim 10, wherein the processor is further configured to compute a value corresponding to the stored data and determine a relationship between the computed value and the previously stored register information.

12.   The system of claim 11, wherein the processor is further configured to update a memory segment to reflect that the selected thread is running when it is determined that the computed value and the previously stored register information do not match.

13.   A time profiling system, comprising:

a multi-threaded program; and

a processor configured to periodically suspend execution of the multi-threaded program to retrieve register data corresponding to a selected thread, compute a value based on the register data, compare the computed value with register information stored following a previous suspension of the multi-threaded program, and regard the selected thread as running if the computed value is different from the previously stored register information.

14.   The system of claim 13, wherein the processor is further configured to update the previous register information based on the computed value.

15.   The system of claim 13, wherein the processor is further configured to provide an indication corresponding to a portion of the program containing the selected thread.

16. A time profiling system for time profiling multiple threads of execution corresponding to a program, comprising:

a processor configured to periodically suspend execution of the program; and

said processor further configured to, during each program suspension, determine whether stored information corresponding to processor registers for each program thread indicates that the thread is running and record time-profiling information for each running thread.

17.   A computer-readable medium containing instructions for time profiling multiple threads of execution corresponding to a program, by:

interrupting execution of all of the threads;

determining whether register data corresponding to a selected thread has changed; and

providing an indication of the change for the selected thread.

18.   The computer-readable medium of claim 17, wherein the determining step includes

accessing stored data corresponding to the selected thread; and

comparing the stored data with register information stored following a previous interrupt.

19.   The computer-readable medium of claim 18, wherein the comparing step includes

computing a value corresponding to the stored data; and

determining a relationship between the computed value and the previously stored register information.

20.   The computer-readable medium of claim 19, wherein the step of providing an indication of the change for the selected thread includes

updating a profile to reflect that the selected thread is running when it is

determined that the computed value and the previously stored register information do not match.

21.   A computer-readable medium containing instructions for determining whether a selected thread of execution of a multi-threaded program is running, by:

suspending execution of the multi-threaded program;

retrieving register data corresponding to the selected thread;

computing a value based on the register data;

comparing the computed value stored following a previous suspension of the multi-threaded program; and

regarding the selected thread as running if the computed value is different from the previously stored register information.

22.   The computer-readable medium of claim 21, wherein the regarding step includes

updating the previous register information based on the computed value.

23.   The computer-readable medium of claim 21, wherein the regarding step includes

providing an indication corresponding to a portion of the program containing the selected thread.

24.   A computer-readable medium containing instructions for time profiling multiple threads of execution corresponding to a program, by:

suspending execution of the program;

determining whether stored information corresponding to processor registers for each thread indicates that the thread is running; and

recording time-profiling information for each running thread.

25

25.   A system for time profiling multiple threads of execution corresponding to a program, comprising:

means for periodically interrupting execution of all of the threads;

means for determining whether register data corresponding to a selected thread has changed; and

means for providing an indication of the change for the selected thread.

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26